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FILE 'HOME' ENTERED AT 09:54:49 ON 20 JUN 1999

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	1.05	1.05

FILE 'SCISEARCH' ENTERED AT 09:58:46 ON 20 JUN 1999

1. *What is the relationship between the two main characters?*

(BIOCHEMICAL BIOPHYS?/RWK)

- 300 -

```

E2      1  BBRACONIDAE 5 9/RWK
E3  965 --> BBRC/RWK
E4      3  BBCR BIOCH BIOPHYS R/RWK
E5      1  BBRC722/RWK
E6      1  BBREAKING WAVES/RWK
E7      1  BBREAST CANCER BIOL/RWK
E8      1  BBRENST CHEM/RWK
E9      1  BBRFE902 BMFT FORSCH/RWK
E10     1  BBRFE9023J2A83 BER/RWK
E11     1  BBRGM/RWK
E12     1  BBPIND C AROMATIC CO/RWK

```

$\Rightarrow 5 \cdot 9^3 = 95$

965 BBRC/RWK  
(BBRC/RWK)  
3 "BBRC BIOCH BIOPHYS R"/RWK  
("BBRC BIOCH BIOPHYS R"/RWK)  
1 BBRC722/RWK  
(BBRC722/RWK)

12 969 (BBRC/RWK OR "BBRC BIOCH BIOPHYS R"/RWK OR BBRC722/RWK)

=> s 11 or 12

L3 2247 L1 OR L2

=> d his

(FILE 'HOME' ENTERED AT 09:54:49 ON 20 JUN 1999)

FILE 'SCISEARCH' ENTERED AT 09:58:46 ON 20 JUN 1999

E BIOCHEM?/RWK  
E BIOCHEMIC?/RWK  
E BIOCHEMICAL?/RWK  
E BIOCHEMICAL/RWK  
E BIOCHEMICAL BIO?/RWK  
E BIOCHEMICAL BIOPHYS?/RWK  
S BIOCHEMICAL BIOPHYS?/RWK  
S BPPC?/RWK

L1 1279 S BIOCHEMICAL BIOPHYS?/RWK  
E BBRC/RWK  
L2 869 S E3-E5

```

L3      2247 S L1 OR L2
=> s (tsuda e?/rau(s)1997/rpy) and 13
      221 TSUDA E?/RAU
      799458 1997/RPY
      44 TSUDA E?/RAU(S)1997/RPY
L4          0 (TSUDA E?/RAU(S)1997/RPY) AND L3
=> s (tsuda e?/rau(s)1997/rpy) (s)13
      221 TSUDA E?/RAU
      799458 1997/RPY
L5          0 (TSUDA E?/RAU(S)1997/RPY) (S)L3
=> file medline
COST IN U.S. DOLLARS          SINCE FILE      TOTAL
                           ENTRY      SESSION
FULL ESTIMATED COST          12.60          13.65
FILE 'MEDLINE' ENTERED AT 10:05:44 ON 20 JUN 1999
FILE LAST UPDATED: 18 JUN 1999 (19990618/UP). FILE COVERS 1966 TO DATE.
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the National Library of Medicine for 1999. Enter HELP RLOAD for details.
THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE
SUBSTANCE IDENTIFICATION.

=> s osteoclast?(2a) (inhibit? or suppress?)
      6819 OSTEOCLAST?
      777302 INHIBIT?
      160552 SUPPRESS?
L6          635 OSTEOCLAST?(2A) (INHIBIT? OR SUPPRESS?)

=> s osteoclast?(a) (inhibit? or suppress?)
      6819 OSTEOCLAST?
      777302 INHIBIT?
      160552 SUPPRESS?
L7          336 OSTEOCLAST?(A) (INHIBIT? OR SUPPRESS?)

=> d kwic
L7  ANSWER 1 OF 333 MEDLINE
AB  . . . . level, too, must lie the explanation of how bisphosphonates
address not only cancer osteolysis but also the tumor burden. By
***inhibiting*** ***osteoclasts***, the drugs may block a
cancer-related vicious cycle.

=> s (osteoclast?(1a) (inhibit? or suppress?)) (1a)factor#
      6819 OSTEOCLAST?
      777302 INHIBIT?
      160552 SUPPRESS?
      1479283 FACTOR#
L8          33 (OSTEOCLAST?(1A) (INHIBIT? OR SUPPRESS?)) (1A)FACTOR#
=> d au ti so an jt la 1-33

L8  ANSWER 1 OF 33 MEDLINE
AU  Kotake S; Udagawa N; Takahashi N; Matsuzaki K; Itoh K; Ishiyama S;
Saito S; Inoue K; Kamatani N; Gillespie M T; Martin T J; Suda T
TI  IL-17 in synovial fluids from patients with rheumatoid arthritis is a
potent stimulator of osteoclastogenesis.
SO  JOURNAL OF CLINICAL INVESTIGATION, (1999 May) 103 (9) 1345-52.
Journal code: HS7. ISSN: 0021-9738.
AN  1999242632      MEDLINE
JT  JOURNAL OF CLINICAL INVESTIGATION
JT  J Clin Invest
LA  English

L8  ANSWER 2 OF 33 MEDLINE
AU  Nagai M; Sato N
TI  Reciprocal gene expression of ***osteoclastogenesis***  

***inhibitory*** ***factor*** and osteoclast differentiation
factor
      regulates osteoclast formation.
SO  BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1999 Apr 21) 23
(3)  719-23.
Journal code: 9Y8. ISSN: 0006-291X.
AN  1999225965      MEDLINE
JT  BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS
JT  Biochem Biophys Res Commun
LA  English

L8  ANSWER 3 OF 33 MEDLINE
AU  Kodaira K; Kodaira K; Mizuno A; Yasuda H; Shima N; Murakami A; Ueda N;
Higashio K
TI  Cloning and characterization of the gene encoding mouse osteoclast
differentiation factor.
SO  GENE, (1999 Apr 1) 230 (1) 121-7.
Journal code: FOP. ISSN: 0378-1119.
AN  1999214075      MEDLINE

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JT GENE  
JT Gene  
LA English

L8 ANSWER 4 OF 33 MEDLINE  
AU Takahashi N; Udagawa N; Suda T  
TI A new member of tumor necrosis factor ligand family, ODF/OPGL/TRANCE/RANKL, regulates osteoclast differentiation and function.  
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1999 Mar 24) 256 (3) 449-55. Ref: 55  
Journal code: 9Y8. ISSN: 0006-291X.  
AN 1999182310 MEDLINE  
JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS  
JT Biochem Biophys Res Commun  
LA English

L8 ANSWER 5 OF 33 MEDLINE  
AU Ninomiya J T; Bi Y; Banks M A; Lavish S A; Goldberg V M; Greenfield E M  
TI Bone marrow cells produce soluble \*\*\*factors\*\*\* that \*\*\*inhibit\*\*\* \*\*\*osteoclast\*\*\* activity.  
SO JOURNAL OF ORTHOPAEDIC RESEARCH, (1999 Jan) 17 (1) 51-8.  
Journal code: JIQ. ISSN: 0736-0266.  
AN 1999171655 MEDLINE  
JT JOURNAL OF ORTHOPAEDIC RESEARCH  
JT J Orthop Res  
LA English

L8 ANSWER 6 OF 33 MEDLINE  
AU Nakagawa N; Kinosaki M; Yamaguchi K; Shima N; Yasuda H; Yano K; Morinaga T; Higashio K  
TI RANK is the essential signaling receptor for osteoclast differentiation factor in osteoclastogenesis.  
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1998 Dec 18) 253 (2) 395-400.  
Journal code: 9Y8. ISSN: 0006-291X.  
AN 1999079247 MEDLINE  
JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS  
JT Biochem Biophys Res Commun  
LA English

L8 ANSWER 7 OF 33 MEDLINE  
AU Akatsu T; Murakami T; Ono K; Nishikawa M; Tsuda E; Mochizuki S I; Fujise N; Higashio K; Motoyoshi K; Yamamoto M; Nagata N  
TI \*\*\*Osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* exhibits hypocalcemic effects in normal mice and in hypercalcemic nude mice carrying tumors associated with humoral hypercalcemia of malignancy.  
SO BONE, (1998 Dec) 23 (6) 495-8.  
Journal code: ASR. ISSN: 8756-3282.  
AN 1999071099 MEDLINE  
JT BONE  
JT Bone  
LA English

L8 ANSWER 8 OF 33 MEDLINE  
AU Murakami T; Yamamoto M; Ono K; Nishikawa M; Nagata N; Motoyoshi K; Akatsu T  
TI Transforming growth factor-beta1 increases mRNA levels of \*\*\*osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* in osteoblastic/stromal cells and inhibits the survival of murine osteoclast-like cells.  
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1998 Nov 27) 252 (3) 747-52.  
Journal code: 9Y8. ISSN: 0006-291X.  
AN 1999057573 MEDLINE  
JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS  
JT Biochem Biophys Res Commun  
LA English

L8 ANSWER 9 OF 33 MEDLINE  
AU Gao Y H; Shinki T; Yuasa T; Kataoka-Enomoto H; Komori T; Suda T; Yamaguchi A  
TI Potential role of cbfa1, an essential transcriptional factor for osteoblast differentiation, in osteoclastogenesis: regulation of mRNA expression of osteoclast differentiation factor (ODF).  
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1998 Nov 27) 252 (3) 697-702.  
Journal code: 9Y8. ISSN: 0006-291X.  
AN 1999057564 MEDLINE  
JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS  
JT Biochem Biophys Res Commun  
LA English

L8 ANSWER 10 OF 33 MEDLINE  
AU Hakeda Y; Kobayashi Y; Yamaguchi K; Yasuda H; Tsuda E; Higashio K; Miyata T; Kumegewa M  
TI \*\*\*Osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* (OCIF)

directly inhibits bone-resorbing activity of isolated mature osteoclasts.  
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1998 Oct 29) 251 (3) 796-801.  
Journal code: 9Y8. ISSN: 0006-291X.  
AN 1999008904 MEDLINE  
JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS  
JT Biochem Biophys Res Commun  
LA English

L8 ANSWER 11 OF 33 MEDLINE  
AU Akatsu T; Murakami T; Nishikawa M; Ono K; Shinomiya N; Tsuda E; Mochizuki S; Yamaguchi K; Kinosaki M; Higashio K; Yamamoto M; Motoyoshi K; Nagata N  
TI \*\*\*Osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* \*\*\*suppresses\*\*\* \*\*\*osteoclast\*\*\* survival by interfering in the interaction of stromal cells with osteoclast.  
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1998 Sep 18) 250 (2) 229-34.  
Journal code: 9Y8. ISSN: 0006-291X.  
AN 1998440780 MEDLINE  
JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS  
JT Biochem Biophys Res Commun  
LA English

L8 ANSWER 12 OF 33 MEDLINE  
AU Takai H; Kanematsu M; Yano K; Tsuda E; Higashio K; Ikeda K; Watanabe K; Yamada Y  
TI Transforming growth factor-beta stimulates the production of osteoprotegerin/ \*\*\*osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* by bone marrow stromal cells.  
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1998 Oct 16) 273 (42) 27091-6.  
Journal code: HIV. ISSN: 0021-9258.  
AN 1998438470 MEDLINE  
JT JOURNAL OF BIOLOGICAL CHEMISTRY  
JT J Biol Chem  
LA English

L8 ANSWER 13 OF 33 MEDLINE  
AU Yamamoto M; Murakami T; Nishikawa M; Tsuda E; Mochizuki S; Higashio K; Akatsu T; Motoyoshi K; Nagata N  
TI Hypocalcemic effect of \*\*\*osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* /osteoprotegerin in the thyroparathyroidectomized rat.  
SO ENDOCRINOLOGY, (1998 Sep) 139 (9) 4012-5.  
Journal code: EG2. ISSN: 0013-7227.  
AN 1998389452 MEDLINE  
JT ENDOCRINOLOGY  
JT Endocrinology  
LA English

L8 ANSWER 14 OF 33 MEDLINE  
AU Mizuno A; Murakami A; Nakagawa N; Yasuda H; Tsuda E; Morinaga T; Higashio K  
TI Structure of the mouse \*\*\*osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* (OCIF) gene and its expression in embryogenesis.  
SO GENE, (1998 Jul 30) 215 (2) 339-43.  
Journal code: FOP. ISSN: 0378-1119.  
AN 1998382527 MEDLINE  
JT GENE  
JT Gene  
LA English

L8 ANSWER 15 OF 33 MEDLINE  
AU Morinaga T; Nakagawa N; Yasuda H; Tsuda E; Higashio K  
TI Cloning and characterization of the gene encoding human osteoprotegerin/ \*\*\*osteoclastogenesis\*\*\* - \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* .  
SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (1998 Jun 15) 254 (3) 685-91.  
Journal code: EMZ. ISSN: 0014-2956.  
AN 1998351569 MEDLINE  
JT EUROPEAN JOURNAL OF BIOCHEMISTRY  
JT Eur J Biochem  
LA English

L8 ANSWER 16 OF 33 MEDLINE  
AU Mizuno A; Amizuka N; Irie K; Murakami A; Fujise N; Kanno T; Sato Y; Nakagawa N; Yasuda H; Mochizuki S; Gomibuchi T; Yano K; Shima N; Washida N; Tsuda E; Morinaga T; Higashio K; Ozawa H  
TI Severe osteoporosis in mice lacking \*\*\*osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* /osteoprotegerin.  
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1998 Jun 29) 247 (3) 610-5.  
Journal code: 9Y8. ISSN: 0006-291X.  
AN 1998321175 MEDLINE  
JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS  
JT Biochem Biophys Res Commun  
LA English

L8 ANSWER 17 OF 33 MEDLINE  
AU Yasuda H  
TI \*\*\*Osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\*

(OCIF).

SO SEIKAGAKU. JOURNAL OF JAPANESE BIOCHEMICAL SOCIETY, (1998 May) 70 (5) 385-90. Ref: 7  
Journal code: ILZ. ISSN: 0037-1017.

AN 1998319072 MEDLINE

JT SEIKAGAKU. JOURNAL OF JAPANESE BIOCHEMICAL SOCIETY

JT Seikagaku

LA Japanese

L8 ANSWER 18 OF 33 MEDLINE

AU Tsuda E; Higashio K

TI \*\*\*Osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* (OCIF)/OPG.

SO NIPPON RINSHO. JAPANESE JOURNAL OF CLINICAL MEDICINE, (1998 Jun) 56 (6) 1435-9. Ref: 16  
Journal code: KIM. ISSN: 0047-1852.

AN 1998312267 MEDLINE

JT NIPPON RINSHO. JAPANESE JOURNAL OF CLINICAL MEDICINE

JT Nippon Rinsho

LA Japanese

L8 ANSWER 19 OF 33 MEDLINE

AU Brandstrom H; Jonsson K B; Ohlsson C; Vidal O; Ljunghall S; Ljunggren O

TI Regulation of osteoprotegerin mRNA levels by prostaglandin E2 in human bone marrow stroma cells.

SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1998 Jun 18) 247 (2) 338-41.  
Journal code: 9Y8. ISSN: 0006-291X.

AN 1998308117 MEDLINE

JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS

JT Biochem Biophys Res Commun

LA English

L8 ANSWER 20 OF 33 MEDLINE

AU Tsukii K; Shima N; Mochizuki S; Yamaguchi K; Kinoshita M; Yano K; Shibata O; Udagawa N; Yasuda H; Suda T; Higashio K

TI Osteoclast differentiation factor mediates an essential signal for bone resorption induced by 1 alpha,25-dihydroxyvitamin D3, prostaglandin E2, or parathyroid hormone in the microenvironment of bone.

SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1998 May 19) 246 (2) 337-41.  
Journal code: 9Y8. ISSN: 0006-291X.

AN 1998273279 MEDLINE

JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS

JT Biochem Biophys Res Commun

LA English

L8 ANSWER 21 OF 33 MEDLINE

AU Fojtik Z; Kandusova M

TI [Bisphosphonates, their mechanism of action and properties useful in the therapy of metabolic bone diseases]. Bisfosfonaty, mechanismus pusebeni a vlastnosti využitelné v lečbe metabolickyh onemocnění kostní tkáně.

SO VNITRNI LEKARSTVI, (1997 Apr) 43 (4) 234-7.  
Journal code: XFY. ISSN: 0042-773X.

AN 1998264149 MEDLINE

JT VNITRNI LEKARSTVI

JT Vnitr Lek

LA Czech

L8 ANSWER 22 OF 33 MEDLINE

AU Matsuzaki K; Udagawa N; Takahashi N; Yamaguchi K; Yasuda H; Shima N; Morinaga T; Toyama Y; Yabe Y; Higashio K; Suda T

TI Osteoclast differentiation factor (ODF) induces osteoclast-like cell formation in human peripheral blood mononuclear cell cultures.

SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1998 May 8) 246 (1) 199-204.  
Journal code: 9Y8. ISSN: 0006-291X.

AN 1998262941 MEDLINE

JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS

JT Biochem Biophys Res Commun

LA English

L8 ANSWER 23 OF 33 MEDLINE

AU Tomoyasu A; Goto M; Fujise N; Mochizuki S; Yasuda H; Morinaga T; Tsuda E; Higashio K

TI Characterization of monomeric and homodimeric forms of \*\*\*osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\*.

SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1998 Apr 17) 245 (2) 382-7.  
Journal code: 9Y8. ISSN: 0006-291X.

AN 1998238645 MEDLINE

JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS

JT Biochem Biophys Res Commun

LA English

L8 ANSWER 24 OF 33 MEDLINE

AU Yasuda H; Shima N; Nakagawa N; Yamaguchi K; Kinoshita M; Mochizuki S; Tomoyasu A; Yano K; Goto M; Murakami A; Tsuda E; Morinaga T; Higashio K;

TI Osteoclast differentiation factor is a ligand for osteoprotegerin/ \*\*\*osteoclastogenesis\*\*\* - \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* and is identical to TRANCE/RANKL.

SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1998 Mar 31) 95 (7) 3597-602.  
Journal code: PV3. ISSN: 0027-8424.

AN 1998188248 MEDLINE

JT PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA

JT Proc Natl Acad Sci U S A

LA English

L8 ANSWER 25 OF 33 MEDLINE

AU Yasuda H; Shima N; Nakagawa N; Mochizuki S I; Yano K; Fujise N; Sato Y; Goto M; Yamaguchi K; Kuriyama M; Kanno T; Murakami A; Tsuda E; Morinaga T; Higashio K

TI Identity of \*\*\*osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* (OCIF) and osteoprotegerin (OPG): a mechanism by which OPG/OCIF inhibits osteoclastogenesis in vitro.

SO ENDOCRINOLOGY, (1998 Mar) 139 (3) 1329-37.  
Journal code: EG2. ISSN: 0013-7227.

AN 1998151033 MEDLINE

JT ENDOCRINOLOGY

JT Endocrinology

LA English

L8 ANSWER 26 OF 33 MEDLINE

AU Yamaguchi K; Kinoshita M; Goto M; Kobayashi F; Tsuda E; Morinaga T; Higashio K

TI Characterization of structural domains of human \*\*\*osteoclastogenesis\*\*\* \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\*.

SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1998 Feb 27) 273 (9) 5117-23.  
Journal code: HIV. ISSN: 0021-9258.

AN 1998148058 MEDLINE

JT JOURNAL OF BIOLOGICAL CHEMISTRY

JT J Biol Chem

LA English

L8 ANSWER 27 OF 33 MEDLINE

AU Miyamoto A; Kunisada T; Hemmi H; Yamane T; Yasuda H; Miyake K; Yamazaki H; Hayashi S I

TI Establishment and characterization of an immortal macrophage-like cell line inducible to differentiate to osteoclasts.

SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1998 Jan 26) 242 (3) 703-9.  
Journal code: 9Y8. ISSN: 0006-291X.

AN 1998125557 MEDLINE

JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS

JT Biochem Biophys Res Commun

LA English

L8 ANSWER 28 OF 33 MEDLINE

AU Tsuda E; Goto M; Mochizuki S; Yano K; Kobayashi F; Morinaga T; Higashio K

TI Isolation of a novel cytokine from human fibroblasts that specifically inhibits osteoclastogenesis.

SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1997 May 8) 234 (1) 137-42.  
Journal code: 9Y8. ISSN: 0006-291X.

AN 97312536 MEDLINE

JT BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS

JT Biochem Biophys Res Commun

LA English

L8 ANSWER 29 OF 33 MEDLINE

AU Yu X; Scholler J; Foged N T

TI Interaction between effects of parathyroid hormone and bisphosphonate on regulation of osteoclast activity by the osteoblast-like cell line UMR-106.

SO BONE, (1996 Oct) 19 (4) 339-45.  
Journal code: ASR. ISSN: 8756-3282.

AN 97049409 MEDLINE

JT BONE

JT Bone

LA English

L8 ANSWER 30 OF 33 MEDLINE

AU Jimi E; Shuto T; Ikebe T; Jingushi S; Hirata M; Koga T

TI Basic fibroblast growth \*\*\*factor\*\*\* \*\*\*inhibits\*\*\* \*\*\*osteoclast\*\*\* - like cell formation.

SO JOURNAL OF CELLULAR PHYSIOLOGY, (1996 Aug) 168 (2) 395-402.  
Journal code: HNB. ISSN: 0021-9541.

AN 96321055 MEDLINE

JT JOURNAL OF CELLULAR PHYSIOLOGY

JT J Cell Physiol

LA English

L8 ANSWER 31 OF 33 MEDLINE

AU Rowe D J; Leung W W; Del Carlo D L

TI \*\*\*Osteoclast\*\*\* \*\*\*inhibition\*\*\* by \*\*\*factors\*\*\* from  
 cells associated with regenerative tissue.  
 SÓ JOURNAL OF PERIODONTALGY, (1996 Apr) 67 (4) 414-21.  
 Journal code: JMT. ISSN: 0022-3492.  
 AN 96310257 MEDLINE  
 JT JOURNAL OF PERIODONTALGY  
 JT J Periodontol  
 LA English  
 L8 ANSWER 32 OF 33 MEDLINE  
 AU Roodman G D  
 TI Role of cytokines in the regulation of bone resorption.  
 SO CALCIFIED TISSUE INTERNATIONAL, (1993) 53 Suppl 1 S94-8. Ref: 39  
 Journal code: CGH. ISSN: 0171-967X.  
 AN 94101496 MEDLINE  
 JT CALCIFIED TISSUE INTERNATIONAL  
 JT Calcif Tissue Int  
 LA English  
 L8 ANSWER 33 OF 33 MEDLINE  
 AU Van Beek E; Van der Wee-Pals L; van de Ruit M; Nijweide P; Papapoulos S;  
 Lowik C  
 TI Leukemia inhibitory \*\*\*factor\*\*\* \*\*\*inhibits\*\*\*  
 \*\*\*osteoclastic\*\*\* resorption, growth, mineralization, and  
 alkaline phosphatase activity in fetal mouse metacarpal bones in culture.  
 SO JOURNAL OF BONE AND MINERAL RESEARCH, (1993 Feb) 8 (2) 191-8.  
 Journal code: 130. ISSN: 0884-0431.  
 AN 93182628 MEDLINE  
 JT JOURNAL OF BONE AND MINERAL RESEARCH  
 JT J Bone Miner Res  
 LA English  
 => d ab 24, 33, 31

L8 ANSWER 24 OF 33 MEDLINE  
 AB Osteoclasts, the multinucleated cells that resorb bone, develop from hematopoietic cells of monocyte/macrophage lineage. Osteoclast-like cells (OCLs) are formed by coculturing spleen cells with osteoblasts or bone marrow stromal cells in the presence of bone-resorbing factors. The cell-to-cell interaction between osteoblasts/stromal cells and osteoclast progenitors is essential for OCL formation. Recently, we purified and molecularly cloned \*\*\*osteoclastogenesis\*\*\* - \*\*\*inhibitory\*\*\* \*\*\*factor\*\*\* (OCIF), which was identical to osteoprotegerin (OPG). OPG/OCIF is a secreted member of the tumor necrosis factor receptor family and inhibits osteoclastogenesis by interrupting the cell-to-cell interaction. Here we report the expression cloning of a ligand for OPG/OCIF from a complementary DNA library of mouse stromal cells. The protein was found to be a member of the membrane-associated tumor necrosis factor ligand family and induced OCL formation from osteoclast progenitors. A genetically engineered soluble form containing the extracellular domain of the protein induced OCL formation from spleen cells in the absence of osteoblasts/stromal cells. OPG/OCIF abolished the OCL formation induced by the protein. Expression of its gene in osteoblasts/stromal cells was up-regulated by bone-resorbing factors. We conclude that the membrane-bound protein is osteoclast differentiation factor (ODF), a long-sought ligand mediating an essential signal to osteoclast progenitors for their differentiation into osteoclasts. ODF was found to be identical to TRANCE/RANKL, which enhances T-cell growth and dendritic-cell function. ODF seems to be an important regulator in not only osteoclastogenesis but also immune system.

L8 ANSWER 33 OF 33 MEDLINE  
 AB Leukemia inhibitory factor (LIF) has been reported to affect bone metabolism, but results are variable. We examined the effect of mouse recombinant LIF on osteoclastic resorption in fetal bone explants representing different stages of osteoclast development. In cultures of 17-day-old fetal mouse metacarpals in which only osteoclast progenitors are present, resorption (measured as 45Ca release) was significantly inhibited to 29.2% and to 96.6% in the presence of LIF and 1000 U/ml, respectively. Histologic examination of the explants treated with 1000 U/ml of LIF confirmed the biochemical findings and showed that osteoclast progenitors and precursors remained in the periosteum and did not invade the mineralized matrix. In metacarpals of older fetuses (18- and 19-day-old) in which the mineralized cartilage has been invaded by mature osteoclasts, the inhibition of resorption by LIF (1000 U/ml) was 87.9 and 74.7%, respectively, the latter being significantly less than the inhibition observed in 17-day-old metacarpal cultures. The inhibitory effect of LIF was absent during concurrent administration of PTH or 1,25-(OH)2D3 and could be reversed by PTH. In addition, LIF was found to inhibit growth, mineralization, and alkaline phosphatase activity in metacarpals independently of osteoclastic

resorption. These results suggest that LIF affects the development rather than the activity of osteoclasts, probably through an effect on the osteogenic cells. LIF may be an important endogenous regulator of bone metabolism.

L8 ANSWER 31 OF 33 MEDLINE  
 AB Guided tissue regeneration (GTR) uses expanded polytetrafluoroethylene (ePTFE) membranes to favor the repopulation of the healing wound with cells with bone regenerative potential. As bone remodeling is a tightly coupled process, inhibition of osteoclast-mediated bone resorption may be critical to regeneration. Thus, this study was undertaken to determine whether cells associated with regenerative tissue can inhibit osteoclast differentiation and activity and to begin characterizing and identifying the factor(s) mediating the observed effects. Conditioned media were harvested from human periodontal cell lines established in culture: cells adherent to ePTFE membranes, recovered from patients after GTR; cells adherent to ePTFE augmentation membranes, recovered from edentulous ridge augmentation procedures; and periodontal ligament cells from periodontally healthy bicuspids. Conditioned medium from each of these regenerative cell lines reduced the number of tartrate-resistant acid phosphatase-positive osteoclast-like cells formed from hemopoietic precursors in mouse bone marrow cultures. Also, both the total resorbed surface area and number of resorption pits formed by these cells on calcium phosphate ceramic films were reduced. The factor in the conditioned medium which inhibited osteoclast differentiation was soluble, heat labile, and resided in the lower molecular weight (< 30 kDa) fraction, the same fraction which would contain cytokines. Western blot analysis of the conditioned medium detected a band at the molecular weight of interferon gamma (IFN-gamma), using a polyclonal rabbit anti-human IFN-gamma. Thus, the factor in the conditioned medium with inhibitory activity may have identity with IFN-gamma or one of the other anti-inflammatory cytokines.

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 L1 1279 S BIOCHEMICAL BIOPHYS?/RWK  
 E BBRC/RWK  
 L2 969 S E3-E5  
 L3 2247 S L1 OR L2  
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